

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 2000

Test 1782A: AGCO Allis 9765 Diesel 18-Speed

Tractor Museum

University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

Museum, Tractor, "Test 1782A: AGCO Allis 9765 Diesel 18-Speed" (2000). *Nebraska Tractor Tests*. 2215. <https://digitalcommons.unl.edu/tractormuseumlit/2215>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NEBRASKA TRACTOR TEST 1782A

AGCO ALLIS 9765 DIESEL

18 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1052 rpm)					
183.20 (136.61)	2200	12.15 (46.00)	0.466 (0.284)	15.07 (2.97)	
Standard Power Take-off Speed (1000 rpm)					
191.76 (143.00)	2091	11.95 (45.24)	0.438 (0.266)	16.05 (3.16)	
Maximum Power (2 Hours)					
194.87 (145.31)	2000	11.64 (44.08)	0.420 (0.255)	16.74 (3.30)	

VARYING POWER AND FUEL CONSUMPTION

183.20 (136.61)	2200	12.15 (46.00)	0.466 (0.284)	15.07 (2.97)	Air temperature
157.36 (117.34)	2223	10.93 (41.37)	0.488 (0.297)	14.40 (2.84)	75°F (24°C)
119.78 (89.24)	2258	9.56 (36.20)	0.561 (0.341)	12.53 (2.47)	Relative humidity
81.41 (60.71)	2294	7.43 (28.12)	0.641 (0.390)	10.96 (2.16)	58%
40.87 (30.48)	2318	5.46 (20.68)	0.939 (0.571)	7.48 (1.47)	Barometer
2.16 (1.61)	2375	3.88 (14.70)	12.633 (7.684)	0.56 (0.11)	28.58" Hg (96.78 kPa)

Maximum Torque - 641 lb.-ft. (869 Nm) at 1500 rpm
Maximum Torque Rise - 46.6%
Torque rise at 1800 engine rpm - 27%

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 9th gear	80.7	75.7
Bystander		--

TIRES AND WEIGHT

Rear tires - No., size, ply & psi (kPa)
Front tires - No., size, ply & psi (kPa)
Height of Drawbar
Static Weight with operator- Rear
- Front
- Total

Tested Without Ballast

Two 18.4R42; **, 22 (150)
Two 14.9R30; ***, 24 (165)
18.0 in (455 mm)
12055 lb (5468 kg)
7300 lb (3311 kg)
19355 lb (8779 kg)

Location of Test: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska, 68583-0832

Dates of Test: September 22-26, 2000

Manufacturer: AGCO Corporation, 4205 River Green Parkway, Duluth Georgia, 30096-2568, USA

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.8441 **Fuel weight** 7.028 lbs/gal (0.842 kg/l) **Oil SAE 15W40 API service classification** CE/CF-4 **Transmission and hydraulic lubricant** AGCO Power Fluid 821 XL **Front axle lubricant** AGCO Gear Lube 715 **Total time engine was operated** 8.0 hours

ENGINE: Make Navistar Diesel **Type** six cylinder vertical with turbocharger **Serial No.** WN4195N1121886 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.591" x 5.35" (116.6 mm x 135.9 mm) **Compression ratio** 16.5 to 1 **Displacement** 531 cu in (8700 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** two paper elements **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

ENGINE OPERATING PARAMETERS:
Fuel rate: 79.3 - 87.3 lb/h (36.0 - 39.6 kg/h) **High idle:** 2304 - 2404 rpm **Turbo boost:** nominal 21.0 - 25.5 psi (145 - 175 kPa) as measured 23.8 psi (164 kPa)

CHASSIS: Type front wheel assist **Serial No.** *CG239001* **Tread width** rear 61.5" (1562 mm) to 126.0" (3200 mm) front 59.9" (1522 mm) to 87.9" (2233 mm) **Wheelbase** 112.5" (2858 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.36 (2.19) second 1.76 (2.83) third 2.27 (3.65) fourth 2.59 (4.17) fifth 2.92 (4.70) sixth 3.33 (5.36) seventh 3.78 (6.09) eighth 4.31 (6.94) ninth 4.88 (7.85) tenth 5.56 (8.95) eleventh 6.31 (10.16) twelfth 7.20 (11.58) thirteenth 8.13 (13.09) fourteenth 9.26 (14.91) fifteenth 10.53 (16.94) sixteenth 13.56 (21.82) seventeenth 17.54 (28.23) eighteenth 22.60 (36.37) reverse 1.36 (2.19), 2.27 (3.65), 2.59 (4.17), 3.78 (6.09), 4.31 (6.94), 6.31 (10.16) **Clutch** multiple wet disc electro-hydraulically operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2091 engine rpm **Unladen tractor mass** 19180 lb (8700 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: None

Maximum Force Exerted

Through Whole Range: 19710 lbs (87.7 kN)

		<u>High flow option</u>
i) Opening pressure of relief valve:	NA	NA
Sustained pressure of the open relief valve:	2860 psi (197 bar)	2850 psi (196 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	29.7 GPM (112.4 l/min)	39.3 GPM (148.8 l/min)
iii) Pump delivery rate at maximum hydraulic power:	22.7 GPM (85.9 l/min)	35.9 GPM (135.9 l/min)
Delivery pressure:	2690 psi (185 bar)	2490 psi (172 bar)
Power:	35.6 HP (26.6 kW)	52.2 Hp (38.9 kW)

THREE POINT HITCH PERFORMANCE

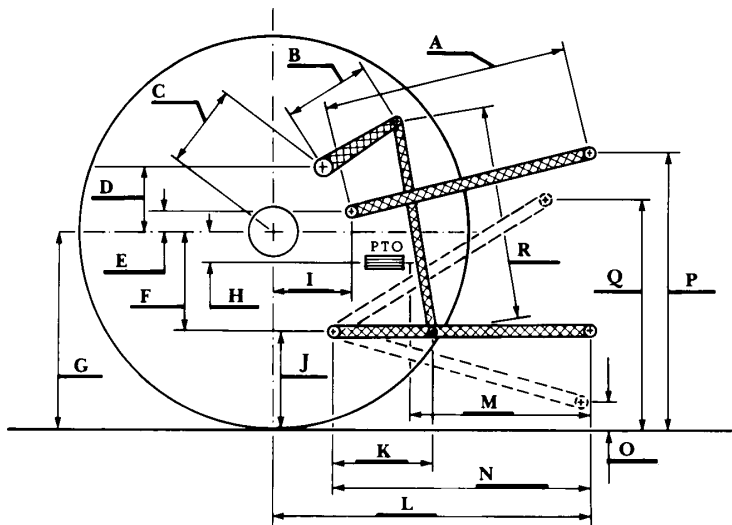
Observed Maximum Pressure psi.(bar)	3020 (208)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	149 (65)
Location:	hydraulic sump
Category:	III
Quick attach:	none

SAE Static Test—System pressure 2720 psi (188 Bar)

Hitch point distance to ground level in. (mm)	11.7 (297)	16.0 (406)	24.0 (610)	32.0 (813)	40.0 (1016)
Lift force on frame lb	22635	23229	22302	22860	21726
" " " " " (kN)	(100.7)	(103.3)	(99.2)	(101.7)	(96.6)

	SAE TEST		OECD TEST	
	inch	mm	inch	mm
A	28.8	732	29.8	756
B	15.0	380	15.0	380
C	19.4	492	19.4	492
D	17.6	447	17.6	447
E	11.0	280	11.0	280
F	13.0	330	13.0	330
G	36.3	920	34.3	870
H	3.9	100	3.9	100
I	17.6	447	17.6	447
J	23.3	590	21.3	540
K	21.3	540	23.2	590
L	48.2	1225	48.2	1225
M	23.1	588	23.1	588
N	38.4	975	38.4	975
O	11.6	295	9.3	235
P	45.3	1150	48.2	1225
Q	41.5	1054	36.9	937
R	34.0	864	36.0	914

HITCH DIMENSIONS AS TESTED—NO LOAD



Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska—Lincoln
Darrell Nelson, Dean and Director

NOTE: See Nebraska Tractor Test 1782, on the White 8610 Diesel, for drawbar performance for this model.

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 121°F (49°C).

We, the undersigned, certify that this is a true and correct report of Official Tractor Test No. **1782A**, December 15, 2000.

Brent T. Sampson
Test Engineer

L.L. Bashford
M.F. Kocher
R.D. Grisso, Jr.
Board of Tractor Test Engineers



AGCO Allis 9765 Diesel